

Application No. 09/650,273
Amendment dated January 3, 2006
After Final Office Action of November 2, 2005

Docket No.: 08226/1203352-US1

AMENDMENTS TO THE CLAIMS

1. (Previously Amended) A computer implemented method of modifying code to be compatible with a runtime library, wherein the code is received from a remote source, the method comprising the steps of:

receiving a code segment from the remote source, wherein the code segment includes a first reference that identifies information stored at the remote source; tokenizing the code segment into a plurality of tokens;

parsing the plurality of tokens so as to determine relationships between the plurality of tokens;

translating the code segment into a modified code segment based on the determined relationships between the tokens such that the modified code segment is compatible with the runtime library, including translating the first reference to a second reference that is directed to a proxy server such that the modified code segment includes the second reference directed to the proxy server,

wherein usage of the second reference in a client device causes a request identifying the information stored at the remote source to be sent to the proxy server rather than the remote source, and wherein the proxy server requests the identified information from the remote source.

2. (Previously Amended) The method of claim 1, wherein the code segment includes one of a JavaScript code segment, a Java code segment, an ActiveX code segment and a markup language segment.

3. (Previously Amended) The method of claim 1, wherein the runtime library is linked to a browser application in a client device communicably coupled to the proxy server, and wherein the steps of receiving, tokenizing, parsing and translating the code segment are performed in the proxy server.

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4. (Original) The method of claim 3, further including the step of sending the modified code from the proxy server to the client device to be processed by the browser.

5. (Original) The method of claim 3, wherein the client device is communicably coupled to the proxy server over the Internet.

6. (Original) The method of claim 1, wherein the proxy server performs the steps of receiving, tokenizing, parsing and translating the code segment.

7. (Previously Amended) The method of claim 1, wherein the runtime library is linked to a browser application in a client device communicably coupled to the proxy server, wherein the step of receiving the code segment from the remote source is performed in the proxy server, wherein the steps of tokenizing, parsing and translating the code segment are performed in the client device, and wherein the method further includes the step of sending the code segment from the proxy server to the client device.

8. (Original) The method of claim 7, wherein the code segment includes a dynamically assembled portion.

9. (Original) The method of claim 7, wherein the client device is communicably coupled to the proxy server over the Internet.

10. (Original) The method of claim 1, wherein the step of translating includes translating a first function call to a second function call, wherein the second function call is compatible with the runtime library.

11. (Original) The method of claim 1, wherein the step of translating includes translating a function call to a variable, wherein the variable is compatible with the runtime library.

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12. (Original) The method of claim 1, wherein the step of translating includes translating a first variable to a second variable, wherein the second variable is compatible with the runtime library.

13. (Original) The method of claim 1, wherein the step of translating includes translating a variable to a function call, wherein the function call is compatible with the runtime library.

14. (Original) The method of claim 1,
wherein the code segment includes one or more first elements selected from the group consisting of:

digits, characters, keywords, literals, identifiers, operators, expressions, statements, variables, regular expressions, functions, arguments and programs;

wherein the modified code segment includes one or more second elements selected from the group consisting of:

digits, characters, keywords, literals, identifiers, operators, expressions, statements, variables, regular expressions, functions, arguments and programs; and wherein the second elements are compatible with the runtime library.

15. (Previously Amended) A computer readable medium containing instructions for controlling a computer system to modify a code segment received from a remote source to be compatible with a runtime library, by:

tokenizing the code segment into a plurality of tokens, wherein the code segment includes a first reference that identifies information stored at the remote source;

parsing the plurality of tokens so as to determine relationships between the plurality of tokens;

translating the code segment into a modified code segment based on the determined relationships between the tokens such that the modified code segment is compatible with the runtime library, including translating the first reference to a second reference that is

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directed to a proxy server such that the modified code segment includes the second reference directed to the proxy server,

wherein usage of the second reference in a client device causes a request identifying the information stored at the remote source to be sent to the proxy server rather than the remote source, and wherein the proxy server requests the identified information from the remote source.

16. (Previously Amended) The computer readable medium of claim 15, wherein the code segment includes one of a JavaScript code segment, a Java code segment, an ActiveX code segment and a markup language segment.,

17. (Original) The computer readable medium of claim 15, further comprising instructions for handling an exception when an exception occurs.

18. (Previously Amended) The computer readable medium of claim 15, wherein the runtime library is implemented on a client device communicably coupled to the proxy server.

19. (Original) The computer readable medium of claim 15, wherein the instructions for translating include instructions for translating a function call to a variable, wherein the variable is compatible with the runtime library.

20. (Original) The computer readable medium of claim 15, wherein the instructions for translating include instructions for translating a first variable to a second variable, wherein the second variable is compatible with the runtime library.

21. (Original) The computer readable medium of claim 15, wherein the instructions for translating include instructions for translating a first function call to a second function call, wherein the second function call is compatible with the runtime library.

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22. (Original) The computer readable medium of claim 15, wherein the instructions for translating include instructions for translating a variable to a function call, wherein the function call is compatible with the runtime library.

23. (Original) The computer readable medium of claim 15, wherein the code segment includes one or more first elements selected from the group consisting of:

digits, characters, keywords, literals, identifiers, operators, expressions, statements, variables, regular expressions, functions, arguments and programs;

wherein the modified code segment includes one or more second elements selected from the group consisting of:

digits, characters, keywords, literals, identifiers, operators, expressions, statements, variables, regular expressions, functions, arguments and programs; and wherein the second elements are compatible with the runtime library.

24. (Previously Amended) The computer-implemented method of claim 1, wherein the first reference includes a destination link directed to the remote site, and wherein the second reference includes a destination link identifying the remote site but directed to the proxy server.

25. (Previously Amended) The computer-implemented method of claim 1, wherein the first reference includes an HTML link with a URL directed to the remote site, and wherein the second reference includes a second HTML link with a second URL directed to the proxy server.

26. (Previously Amended) The computer readable medium of claim 15, wherein the first reference includes a destination link directed to the remote site, and wherein the second reference includes a destination link identifying the remote site but directed to the proxy server.

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27. (Previously Amended) The computer readable medium of claim 15, wherein the first reference includes an HTML link with a URL directed to the remote site, and wherein the second reference includes a second HTML link with a second URL directed to the proxy server.

28. (Currently Amended) A computer-implemented method of modifying code to be compatible with a runtime library resident on a client device, the method comprising:

receiving a code segment by the client device from a proxy server, wherein the proxy server retrieved the code segment from a remote source in response to a first request from the client device for information stored at the remote source;

tokenizing the code segment into a plurality of tokens;

parsing the plurality of tokens so as to determine one or more relationships between the plurality of tokens; [and]

translating the code segment into a modified code segment based on the determined relationships between the tokens such that the modified code segment is compatible with the runtime library, wherein subsequent usage of the modified code segment at the client device causes a second request identifying information stored at the remote source to be sent to the proxy server that requests the identified information from the remote source for the client device; and

wherein tokenizing, parsing and translating are performed by the client device.

29. (Previously Amended) The method of claim 28, wherein the runtime library is linked to a browser application in the client device, and wherein the client device is communicably coupled with the proxy server over the Internet.

30. (Previously Amended) The method of claim 28, wherein the code segment includes a dynamically assembled portion.

31. (Previously Amended) The method of claim 28, wherein translating includes one or more of:

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translating a first function call to a second function call compatible with the runtime library;
translating a function call to variable compatible with the runtime library; and
translating a first variable to a second variable compatible with the runtime library;
and
translating a variable to a function call compatible with the runtime library.

32. (Currently Amended) A computer-implemented method of modifying code to be compatible with a runtime library resident on a client device, the method comprising:

receiving a code segment by a proxy server, wherein the proxy server retrieved the code segment from a remote source in response to a first request from the client device identifying information stored at the remote source;

tokenizing the code segment into a plurality of tokens;

parsing the plurality of tokens so as to determine one or more relationships between the plurality of tokens; and

translating the code segment into a modified code segment based on the determined relationships between the tokens such that the modified code segment is compatible with the runtime library, wherein usage of the modified code segment at the client device causes a second request identifying information stored at the remote source to be sent to the proxy server that subsequently requests the identified information from the remote source for the client device; and

wherein one or more of the steps of tokenizing, parsing and translating are performed by the client device, and wherein all other steps are performed by the proxy server.

33. (Previously Amended) The method of claim 32, wherein the runtime library is linked to a browser application in the client device, and wherein the client device is communicably coupled with the proxy server over the Internet.

34. (Previously Amended) The method of claim 32, wherein translating includes one or more of:

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translating a first function call to a second function call compatible with the runtime library;

translating a function call to variable compatible with the runtime library; and
translating a first variable to a second variable compatible with the runtime

library; and

translating a variable to a function call compatible with the runtime library.

35. (Currently Amended) A computer implemented method, comprising:

receiving a code segment over a network connection, the code segment including a first reference to information stored at a remote site, wherein usage of the first reference would cause a message to be sent to the remote site; and

modifying the code segment to be compatible with a runtime library, including translating the first reference to a second reference that is directed to a proxy server, wherein the compatibility for the modified code segment with the runtime library is arranged in accordance with tokenized relationships for the modified code segment, and wherein usage of the second reference in a client device causes a message that identifies the information stored at the remote site to be sent to the proxy server instead of the remote site, and wherein the proxy sends a request for the identified information to the remote site for the client device.

36. (Previously Amended) The method of claim 35, wherein receiving and modifying are performed in a client device communicably coupled with the proxy server, and wherein the code segment is received from the proxy server.

37. (Previously Amended) The method of claim 35, wherein the code segment is received from the remote site and wherein modifying is performed partially in a client device communicably coupled with the proxy server and partially in the proxy server.

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38. (Previously Amended) The method of claim 35, wherein the first reference includes a destination link with a URL directed to the remote site, and wherein the second reference includes a destination link with a URL directed to the proxy server.

39. (Previously Amended) The method of claim 35, wherein the second reference includes information identifying the remote site.

40. (Currently Amended) A computer implemented method of establishing a persistent communication session between a client system and a proxy server wherein the client system is able to interact with a plurality of remote sites via the same proxy server across multiple network requests, the method comprising:

establishing a communication session between the client system and a proxy server;
receiving at the proxy server a plurality of first code segments from a corresponding plurality of remote sites, each first code segment including a first reference to information stored at the corresponding remote site, wherein usage of the first reference in each first code segment would cause a network request to be sent to the corresponding remote site; [and]

translating the first reference of each first code segment to a second reference that modifies each first code segment and identifies the corresponding remote site but is directed to the proxy server, wherein usage of each modified first code segment's second reference in the client [device] system causes a network request to be sent to the proxy server rather than the corresponding remote site, and wherein a compatibility for the modified first code segment with a runtime library is arranged in accordance with tokenized relationships for each modified first code segment; and

using, in the client system, one or more of the second references of each modified first code segment such that one or more corresponding network requests for information stored by the remote sites are sent to the proxy server, and wherein the proxy server sends requests originated by the client system for the identified information to the remote sites.

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41. (Previously Amended) The method of claim 40, wherein using one or more of the second references is performed in the client system with or without a user input.

42. (Previously Amended) The method of claim 40, wherein translating is performed entirely within the proxy server, the method further including sending translated code segments with the second references to the client system.

43. (Previously Amended) The method of claim 40, wherein translating is performed entirely within the client system, the method further including sending the first code segments to the client system.

44. (Previously Amended) The method of claim 40, wherein translating is performed partially within the proxy server and partially within the client system, the method further including sending partially translated code segments to the client system.

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